REMARKS

A. Introduction

In the July 18, 2003 Office Action, claims 1-9 are noted as pending and are rejected based on prior art.

In this Response the Specification and drawings are amended to a minor extent, claims 1, 2 and 9 are amended, and remarks are provided.

B. Request For Counter-Signed PTO 1449

On July 2, 2003 an Information Disclosure Statement was filed with ten (10) references noted in an attached PTO 1449. A copy of this submission as well as the date-stamped post card are attached.

It is respectfully requested that, with the next Action, the Examiner countersign and return the attached PTO 1449.

C. Rejection of Claims 1-4 and 8 Under 35 U.S.C. §102(b)

These claims are rejected as being anticipated by U.S. Patent No. 4,680,802 issued to Nishida et al. The Action alleges that column 2, line 25 through column 3, line 13 disclose the present invention.

For the following reasons it is respectfully submitted that the present invention, as recited by claims 1-4 and 8, was neither anticipated nor rendered obvious by the cited reference.

The present invention first creates a plurality of reference models by detecting image data of a three-dimensional reference object in various angular rotations, storing these reference models, detecting image data of an object of detection, comparing the image data of the object of detection with the plurality of stored reference models, and matching the image of the object of detection with the closest stored reference model.

Nishida et al. uses four parameters, e.g., hole position, major axis direction, remotest point and ultimate value pattern, in various combinations to create eight "types" (kinds) and

postures of two dimensional shapes. That is, the objects of detection in Nishida et al. are arranged on a "truck" only in two-dimensional positions and postures. See Col. 2, lines 23-27. against which the detected image is sequentially compared in order to control the robot. See Fig. 4, Col. 3, lines 38-47, 58-60 and 68, Col. 4, lines 1-3, 10-12, 18-22, 30-34 and 45-49 and Col. 5, lines 3-7.

Thus, Nishida et al. fails to disclose or teach determining posture, or posture and position, of a three-dimensional object by performing matching processing using reference models, such as shown in Figs. 2a-2d of the present application, created based on image data of three dimensional objects captured in a plurality of different directions, as now recited in claim 1 herein.

D. Rejection Of Claim 5 Under 35 U.S.C. §103(a)

This claim is rejected as being made obvious by the same Nishida et al. reference.

For the following reasons, it is respectfully submitted that the present invention, as recited by claim 5 herein, was not made obvious by the cited reference.

Claim 5 depends from claim 1. The comments above regarding the inability of Nishida et al. to render claim 1 obvious are expressly incorporated herein. Regardless of the Nishida et al. reference's camera position, the reference lacks a teaching of the creation of the reference models based on angular rotation of three-dimensional objects or the use of such reference models to perform mathching processing.

E. Rejection Of Claims 6, 7 and 9 Under 35 U.S.C. §103(a)

These claims are rejected as being made obvious by a combination of Nishida et al. and U.S. Patient No. 6,026,189, issued to Greenspan.

Again, for the following reasons its respectfully that these dependent claims were not made obvious by this combination.

Greenspan is cited for teaching the three-dimensional processing and remote imaging

recited in claims 6 and 9. However, regardless of Greenspan's teaching, Greenspan otherwise fails to suggest modifying Nishida et al. to arrive at the reference model creation, storing, and matching recited in amended independent claim 1 herein, from which claims 6 and 9 depend.

Similarly, in regard to claim 7, even if it is known that a device capable of obtaining three-dimensional data is capable of two-dimensional data, same does not compensate for the incomplete teaching of Nishida et al. and Greenspan as discussed above, in relation to claims 1 and 6, from which claim 7 depends.

III. CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that claims 1-9 are now in condition for allowance.

If there any additional fees associated with filing of this Response, please charge the same to our Deposit Account No. 19-3935.

Finally, if there are any formal matters remaining after this Response, the undersigned would appreciate a telephone conference with the Examiner to attend to these matters.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 11/18/03

By: _____
William F. Herbert
Registration No. 31,024

1201 New York Ave., NW
Suite 700
Washington, DC 20005